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8 JAN 2005From the
INTERNATIONAL PRELIMINARY EXAMINING AUTHORITY

PCT

NOTIFICATION OF TRANSMITTAL OF
THE INTERNATIONAL PRELIMINARY
EXAMINATION REPORT

(PCT Rule 71.1)

To:

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BRESILDate of mailing
(day/month/year)

12.01.2005

Applicant's or agent's file reference
EMBR-018

IMPORTANT NOTIFICATION

International application No.
PCT/BR 03/00145International filing date (day/month/year)
08.08.2003Priority date (day/month/year)
09.10.2002Applicant
EMPRESA BRASILEIRA DE COMPRESSORES S/A EMBRACO

1. The applicant is hereby notified that this International Preliminary Examining Authority transmits herewith the international preliminary examination report and its annexes, if any, established on the international application.
2. A copy of the report and its annexes, if any, is being transmitted to the International Bureau for communication to all the elected Offices.
3. Where required by any of the elected Offices, the International Bureau will prepare an English translation of the report (but not of any annexes) and will transmit such translation to those Offices.
4. **REMINDER**

The applicant must enter the national phase before each elected Office by performing certain acts (filing translations and paying national fees) within 30 months from the priority date (or later in some Offices) (Article 39(1)) (see also the reminder sent by the International Bureau with Form PCT/IB/301).

Where a translation of the international application must be furnished to an elected Office, that translation must contain a translation of any annexes to the international preliminary examination report. It is the applicant's responsibility to prepare and furnish such translation directly to each elected Office concerned.

For further details on the applicable time limits and requirements of the elected Offices, see Volume II of the PCT Applicant's Guide.

The applicant's attention is drawn to Article 33(5), which provides that the criteria of novelty, inventive step and industrial applicability described in Article 33(2) to (4) merely serve the purposes of international preliminary examination and that "any Contracting State may apply additional or different criteria for the purposes of deciding whether, in that State, the claimed inventions is patentable or not" (see also Article 27(5)). Such additional criteria may relate, for example, to exemptions from patentability, requirements for enabling disclosure, clarity and support for the claims.

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PATENT COOPERATION TREATY

PCT

INTERNATIONAL PRELIMINARY EXAMINATION REPORT

(PCT Article 36 and Rule 70)

Applicant's or agent's file reference EMBR-018	FOR FURTHER ACTION See Notification of Transmittal of International Preliminary Examination Report (Form PCT/PEA/416)	
International application No. PCT/BR 03/00145	International filing date (<i>day/month/year</i>) 08.08.2003	Priority date (<i>day/month/year</i>) 09.10.2002
International Patent Classification (IPC) or both national classification and IPC F04B39/10		
Applicant EMPRESA BRASILEIRA DE COMPRESSORES S/A EMBRACO		

1. This international preliminary examination report has been prepared by this International Preliminary Examining Authority and is transmitted to the applicant according to Article 36.

2. This REPORT consists of a total of 5 sheets, including this cover sheet.

☐ This report is also accompanied by ANNEXES, i.e. sheets of the description, claims and/or drawings which have been amended and are the basis for this report and/or sheets containing rectifications made before this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions under the PCT).

These annexes consist of a total of . sheets.

3. This report contains indications relating to the following items:

- I ☒ Basis of the opinion
- II ☐ Priority
- III ☐ Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
- IV ☐ Lack of unity of invention
- V ☒ Reasoned statement under Rule 66.2(a)(ii) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
- VI ☐ Certain documents cited
- VII ☐ Certain defects in the international application
- VIII ☐ Certain observations on the international application

Date of submission of the demand 07.05.2004	Date of completion of this report 12.01.2005
Name and mailing address of the international preliminary examining authority: <div style="display: flex; align-items: center;"> <div> European Patent Office D-80298 Munich Tel. +49 89 2399 - 0 Tx: 523656 epmu d Fax: +49 89 2399 - 4465 </div> </div>	Authorized Officer Olona Laglera, C Telephone No. +49 89 2399-6941

**INTERNATIONAL PRELIMINARY
EXAMINATION REPORT**

International application No. **PCT/BR 03/00145**

I. Basis of the report

1. With regard to the **elements** of the international application (*Replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report since they do not contain amendments (Rules 70.16 and 70.17)*):

Description, Pages

1-10 as originally filed

Claims, Numbers

1-8 as originally filed

Drawings, Sheets

1/3-3/3 as originally filed

2. With regard to the **language**, all the elements marked above were available or furnished to this Authority in the language in which the international application was filed, unless otherwise indicated under this item.

These elements were available or furnished to this Authority in the following language: , which is:

- ☐ the language of a translation furnished for the purposes of the international search (under Rule 23.1(b)).
☐ the language of publication of the international application (under Rule 48.3(b)).
☐ the language of a translation furnished for the purposes of international preliminary examination (under Rule 55.2 and/or 55.3).

3. With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application, the international preliminary examination was carried out on the basis of the sequence listing:

- ☐ contained in the international application in written form.
☐ filed together with the international application in computer readable form.
☐ furnished subsequently to this Authority in written form.
☐ furnished subsequently to this Authority in computer readable form.
☐ The statement that the subsequently furnished written sequence listing does not go beyond the disclosure in the international application as filed has been furnished.
☐ The statement that the information recorded in computer readable form is identical to the written sequence listing has been furnished.

4. The amendments have resulted in the cancellation of:

- ☐ the description, pages:
☐ the claims, Nos.:
☐ the drawings, sheets:

**INTERNATIONAL PRELIMINARY
EXAMINATION REPORT**

International application No. **PCT/BR 03/00145**

5. ☐ This report has been established as if (some of) the amendments had not been made, since they have been considered to go beyond the disclosure as filed (Rule 70.2(c)).

(Any replacement sheet containing such amendments must be referred to under item 1 and annexed to this report.)

6. Additional observations, if necessary:

V. Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Statement

Novelty (N)	Yes: Claims	7
	No: Claims	1-6,8
Inventive step (IS)	Yes: Claims	
	No: Claims	1-8
Industrial applicability (IA)	Yes: Claims	1-8
	No: Claims	

2. Citations and explanations

see separate sheet

**INTERNATIONAL PRELIMINARY
EXAMINATION REPORT - SEPARATE SHEET**

International application No. PCT/BR 03/00145

Reference is made to the following documents:

D1 : US - A - 4 764 091

D2 : GB - A - 1 336 676

D3 : DE - B - 10 93 629

Re Item V

Reasoned statement under Rule 66.2(a)(ii) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

V-1 The present application does not meet the criteria of Article 33(1) PCT, because the subject-matter of claim 1 is not new in the sense of Article 33(2) PCT.

The document D1 discloses (the references in parentheses applying to this document):

A suction valve (suitable) for a small hermetic compressor of the type presenting a compression cylinder, which has an end closed by a valve plate (4), said valve comprising a flexible vane (11a) which is shaped so as to present: a fixation end portion (11b) to be affixed to the valve plate (4); a bending median portion (21b) provided with a median opening (21c) aligned with a discharge orifice (10'); and a sealing end portion (21a) operatively associated with the suction orifice (9') provided in the valve plate (4), wherein the distance between an external edge of the flexible vane (11a) and its adjacent edge portion of the median opening (21c) diminishes progressively, along a higher bending region of the flexible vane (11a) of the valve, from a maximum value, close to the end fixation portion (11b), to a minimum value, close to the boundary of the higher bending region of the flexible vane (11a) (cf. D1; column 6, lines 50-64; Fig. 5A).

Therefore, the subject-matter of claim 1 is known and claim 1 is unallowable.

V-2 Independently of D1, each of the documents D2 and D3 discloses a suction valve with the features of claim 1. Therefore, each of these documents destroys the novelty of claim 1 (Article 33(2) PCT).

V-3 The subject-matter of claims 2-6 and 8 is not new in the light of the documents

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D1-D3.

- V-4 The subject-matter of claim 7 is not disclosed in any of the prior art documents cited in the search report. However, it cannot be considered as involving an inventive step for the following reason:

Coefficients "a", "b", "c", and "d" in the equation given in claim 7 can also have the zero value. A particular case of this mathematical equation will be therefore:

$$L / L_0 = dx + 1 \quad (\text{i.e. } a = b = c = 0)$$

That means, the width (L) decreases linearly along the higher bending region.

In the suction valve of D2, although the width (L) starts decreasing sinuously, it decreases linearly along the largest portion of the higher bending region (cf. D2; Fig. 2). It would therefore be obvious to the person skilled in the art to apply a simpler design to a similar suction valve, thereby arriving at a suction valve according to claim 7. Such a simplification does not involve an inventive step (Article 33(3) PCT).